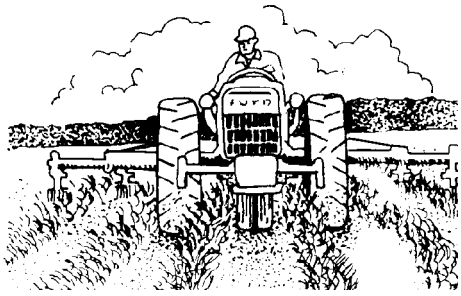
Can agriculture survive in Maryland? Since 1949, farm numbers have dropped by two-thirds; land in farms declined to about half of its 1949 level. You cannot drive around the state without noticing the impacts of urban sprawl and the suburbanization of rural Maryland. What are the factors underlying these trends? What kinds of policy responses may help create conditions in which Maryland agriculture can survive and even thrive?

To answer these and similar questions, the Maryland Department of Agriculture commissioned a study of the future of Maryland agriculture. That study was carried out at the Center for Agricultural and Natural Resource Policy in the University of Maryland's Agricultural and Resource Economics (AREC) Department.

The findings of that report are summarized in this edition of Economic Viewpoints.

Contributors to the study included Robert Chase, Michael Haigh, Erik Lichtenberg, Loretta Lynch, Dale Johnson, Wesley Musser, and Doug Parker, with technical assistance from Liesl Koch, Janet Carpenter, Uddin Hellal, and Valerie Mueller. Bruce Gardner acted as overall project leader. Robert Chase devoted full time to this project during his term as visiting researcher in the AREC department. The others on the team are faculty, graduate students, or staff members in the AREC department. The study team is responsible for all errors or omissions, and the findings and interpretations are those of the authors and are not positions of the Maryland Department of Agriculture or of the College of Agriculture and Natural Resources at UMCP.

Howard Leathers, Editor
Economic Viewpoints



Issues in the Future of Maryland Agriculture

Bruce Gardner
Professor and Chair

The future of agriculture in Maryland will be shaped by a number of factors, not only by the overall strength of the farm economy in the US, but also by suburban development and by environmental issues in the Chesapeake Bay watershed. Maryland's farm numbers and land in farms are declining, and this trend is especially strong in the most suburbanized counties. Even in the more rural parts of the state, the conversion of farmland to nonagricultural uses is a potent force. A question that has to be faced by all concerned about Maryland's future is whether agriculture's large and varied contributions to the economy and environment can be sustained. What are the prospects for the future economic health of the sector? What are the underlying causes of those prospects? What policy options might be appropriate?

These issues were addressed in a two-year study recently completed at the University of Maryland's Center for Agricultural and Natural Resource Policy. The study was commissioned and funded by the Maryland Department of Agriculture. This issue of Economic Viewpoints presents highlights of the findings. The full text of the report is available online at http://www.arec.umd.edu/PolicyCenter

Current Situation

Much of Maryland agriculture continues to be competitive with other parts of the country, and farming is an attractive and viable way of life for thousands of people. Agriculture remains a major factor in Maryland's economy, the single biggest factor in the economy of some areas of the state. The farming sector and its related industries (e.g., agricultural inputs and services and food processing and marketing) accounted for about $5 billion (3 percent) of the Maryland gross state product in 1999 and employed 62,700 people (12,400 farm operators, 5,900 farm laborers, and 44,300 in farm input and service supply and agricultural processing). These contributions are not declining over time, even though the share of the state's economic activity accounted for by agriculture is declining in Maryland, as in other states, because non-agricultural sectors are growing faster.

A summary of the main negative and positive elements of the current situation is as follows. The concern that Maryland agriculture is a "declining industry" is fueled by the following facts:

- Many farms have gone out of business in recent years, especially notable in hog and dairy production. Acreage of some commodities, notably vegetables for processing, has declined substantially, and tobacco is on the verge of disappearance (see Figure 1).
- The age of farm operators has been rising for two decades, and the average Maryland farm operator is now over 54 years old – indicating the importance of a flow of new replacement farmers.
- Small-scale and part-time farming are an increasing fraction of the state's farms, and the majority of these operations have expenses greater than receipts. This suggests an eroding base for commercially viable agriculture in the state as a whole.
- Farmland continues to be lost to suburban development at a rate that may threaten the maintenance of a critical mass of agricultural activity in some areas of the state. Maryland now ranks fifth among all states in percentage of land that is developed.
- Public perception of farming appears to have shifted toward seeing agriculture as a threat to water quality and other environmental values, and this is reflected in policies that are imposing increasing regulatory burdens on farmers. Most notably, agricultural activity has been associated with nitrogen and phosphorus runoff that is held responsible for declines in water quality in the Chesapeake Bay and its tributaries.

On the other hand, there are a number of reasons to be hopeful about the health of Maryland's agricultural sector:

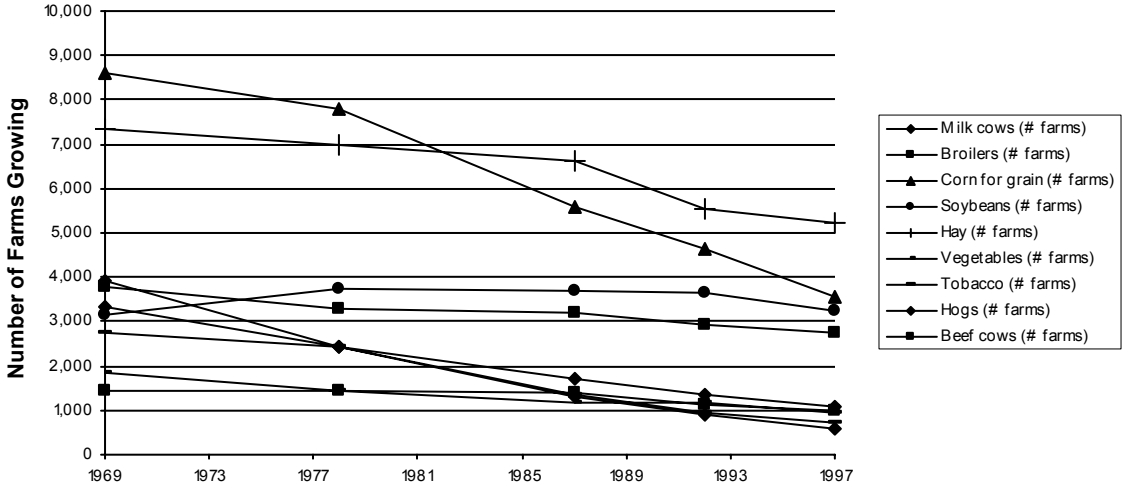


Figure 1 Maryland Farms Growing Selected Commodities
Source: Census of Agriculture

- Since 1990 the rates of loss of farm numbers and farmland have moderated from the losses of earlier decades.
- The incomes of farm operator households in Maryland are on average favorable as compared to other states. In 2000, Maryland's average net income per farm was well above Pennsylvania's and Virginia's, and exceeded the US average substantially (see Figure 2). However, the statewide average data are skewed by aggregating larger commercial farms with smaller part-time operations. The majority of the almost 80 percent of Maryland farms with sales of less than $100,000 have negative net cash income (expenses greater than receipts). The larger farms do much better, but even they earn rates of return that are quite low – an estimated 4 to 6 percent on invested capital (see Table 1).

- The relatively high value of farmland in Maryland is a source of asset value, despite the barriers posed for those who wish to enter farming or add to their land ownership. Maryland farms have lower debt/asset ratios than are typical in other states, and the net worth of the average farm is higher than in the U.S. as a whole, despite the smaller average size of Maryland's farms (see Table 2).

- At both state and federal levels, polices have recently been enacted, and amplified in the 2002 farm bill, that are aimed at preserving land in farming, assisting farmers in environmental stewardship, and providing support for commodity producers to offset currently low prices.

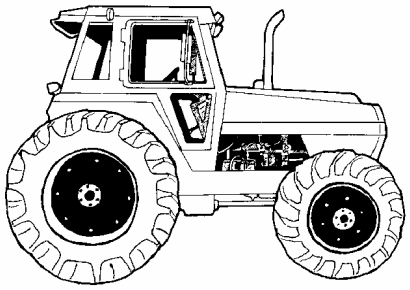
The trends of farm numbers, farmland, and farm size in Maryland and the United States as whole are shown in Table 3.

Table 1. Maryland Farms by Sales Category, 1997

	$100,000+	less than $100,000
farms	2,597	9,487
% of state's farms	21.5	78.5
acres per farm	475	97
% of state's total	57.2%	42.8%
cash farm income per farm[a] (thousand dollars)	82	-2
value of real estate per farm (dollars)	1,265,691	372,826
% land owned	41.9%	73.0%
value of capital equipment per farm (dollars)	151,213	35,343
rate of return[b]	5.1%	-7.9%

[a] Cash receipts plus government payments plus payments for services to other farms minus expenses for purchased inputs, livestock, interest on farm debt, property taxes, hired labor, machinery repair and maintenance, and rental payments for leased land.
[b] Cash farm income minus $40,000 for operator labor ($20,000 for smaller farms) minus 5 percent depreciation of capital equipment, divided by value of farm real estate times percent owned plus value of capital equipment.

Source: 1997 Census of Agriculture



Public Attitudes and the Policy Process

But statistics do not tell the whole story. Many farmers and others closely connected with agriculture have expressed a lack of confidence that current national, state, and local policies are adequate to address agriculture's problems. Underlying this is a concern that agriculture is underappreciated by the nonfarm population, and that this attitude is reflected in the actions of local and state government.

Even if the nonfarm population has a positive view of agriculture, that may not translate into policies that improve the economic situation of traditional commercial agriculture. The nonfarm public may be just as happy to see 300 acres devoted to several small recreational horse farms as to a working dairy farm; but many in agriculture would see the conversion from the latter to the former as a substantial social and economic loss. Similarly, increased uses of land for environmental protection purposes is what the public desires, but in many

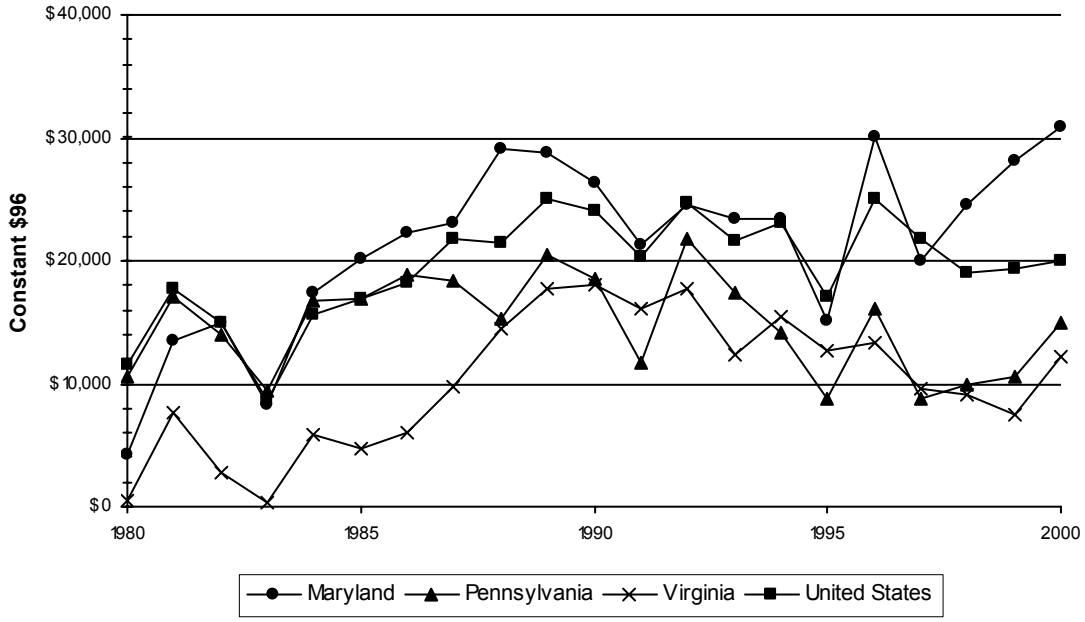


Figure 2. Real Net Farm Income per Farm, 1980-2000
Source: USDA, ERS, and authors' calculations

instances land is thereby removed from traditional commercial crop use and hence squeezes commercial agriculture further. Particular problems arise for crop producers who must rent land beyond the acreage they own in order to attain an economically viable scale of operation.

In addition, the impact of a declining farm sector on the general economy may not be fully understood by the general public. The possibility exists that the declines in farms and farm acreage may, over the next 20 years, go so far as to seriously impair the economic health of nonmetropolitan areas of the state. For example, if the grain-broiler economy of the Eastern Shore begins to decline, might that generate an accelerating downward economic cycle as the land or production base falls below some critical level needed to sustain the industry at an efficient scale?

Geography of Maryland Agriculture

Maryland's farms are very heterogeneous with respect to size of operation and other individual characteristics of farm enterprises. Different regions of the state face very different problems. In the report's analysis, three geographic regions are distinguished, based on degree of urbanization of counties (using U.S. Department of Commerce criteria for metro areas):

- Central metropolitan counties have the largest populations and are found along the Baltimore-Washington axis (Anne Arundel, Baltimore, Howard, Montgomery, and Prince George's);
- Other metropolitan counties located a greater distance from the Baltimore-Washington axis (Allegany, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Queen Anne's, and Washington);
- Non-metropolitan counties located on the Eastern Shore and southern and western Maryland (Caroline, Dorchester, Garrett, Kent, St. Mary's, Somerset, Talbot, Wicomico, and Worcester).

The relative sizes (measured by farm acreage) of these three regions and the downward trend in farmland since 1949 are shown in Figure 3.

Overall, farms in the central metropolitan counties collectively produce only 10 percent of Maryland's farm output (measured in terms of market value), while farms in the "other metropolitan" and "non-metropolitan" areas contribute about 32 percent and 58 percent, respectively. While the majority of farms are small (less than $100,000 in sales) in all regions, the share of small farms is higher in the two metropolitan regions (89 percent in central metropolitan counties; 80 percent in "other" metropolitan counties) than in the non-metropolitan region (62 percent). Residential-lifestyle farms (operators relying mainly on an off-farm occupation) and retirement farms predominate within the metropolitan counties. The large number of small, retired, and residential farms in the metropolitan areas indicates a different type of agriculture than the traditional commercial farms.

Table 2. Balance Sheet of Maryland Farms

	Thousand Dollars	Dollars Per Farm
Farm assets	7,899,247	637,036
Real estate	6,674,009	538,227
Livestock and poultry	222,274	17,925
Machinery and motor vehicles	553,537	44,640
Crops	100,122	8,074
Purchased inputs	37,581	3,031
Financial	311,724	25,139
Farm debt	1,134,068	91,457
Real estate	661,279	53,329
Farm Credit System	326,837	26,358
Farm Service Agency	15,057	1,214
Commercial banks	161,706	13,041
Life insurance companies	24,435	1,971
Individuals and others	133,243	10,745
Non real estate	472,789	38,128
USDA, Farm Credit System	206,607	16,662
USDA, Farm Service Agency	14,305	1,154
Commercial banks	58,557	4,722
Individuals and others	193,320	15,590
Equity	6,765,179	545,579
Ratio		
Debt/equity	16.8	
Debt/assets	14.4	

Source: USDA, Economic Research Service

Reasons for Underlying Trends

In order to project the likely future evolution of Maryland agriculture, in terms of farm numbers, land in farms, and value added to the state's economy, it is important to understand the reasons underlying recent trends. The reasons are economic. Resources leave the farming sector -- land is converted from farm to non-farm uses, and farmers retire and are not replaced by a new generation -- because the economic rewards from farming are less than the rewards from alternative nonagricultural endeavors.

The question is, then, what forces lie behind the decreased economic opportunities in farming as compared to nonagricultural pursuits? The authors of the report conducted interviews and reviewed studies of the agricultural economy of other states, and identified the following explanatory factors:

- weak markets for traditional commodities, causing declining prices;
- development pressures causing land conversion to nonfarm uses;
- environmental regulations and programs;
- labor constraints;
- other costs hindering Maryland's competitive advantage.

Many differences in trends between Maryland and the U.S. as a whole are largely a matter of Maryland being a highly urbanized state, but the difference is not a matter of the rate of overall population growth crowding out farming. Maryland's population is growing at almost exactly the rate of the U.S. as a whole, faster than Pennsylvania's and slower than Virginia's. The loss of farmland is more specifically tied to the diffusion of residences and associated businesses through the formerly rural areas of metro-area counties -- i.e., suburban sprawl. Since 1980 the annual rate of decline of land in farms in the central metro counties has been 2.1 percent, while in the rest of the state the rate of decline has been less than 1 percent annually.

Even the most urbanized counties – Baltimore, Montgomery, and Prince George's – have so far maintained substantial cropland bases. This is notable in view of the continued expansion of housing and commercial development on former farmland. The decline of farming in suburban areas is sometimes seen as inexorable

Table 3. Farm Acreage, Number of Farms, and Acres per Farm, 1949-1997

	Maryland			United States		
Year	Number of Farms	Land in Farms (1,000 acres)	Average Farm Size (acres)	Number of Farms (1,000 farms)	Land in Farms (1,000 acres)	Average Farm Size (acres)
1949	36,107	4,056	112	5,388	1,161,420	216
1954	32,500	3,897	120	4,782	1,158,192	242
1959	25,122	3,457	138	3,711	1,123,508	303
1964	20,760	3,181	153	3,155	1,110,187	352
1969	17,181	2,803	163	2,730	1,062,893	389
1974	15,163	2,634	174	2,314	1,017,030	440
1978	15,540	2,614	168	2,258	1,014,777	449
1982	16,183	2,558	158	2,241	986,797	440
1987	14,776	2,397	162	2,088	964,471	462
1992	13,037	2,223	171	2,116	978,500	464
1997	12,500	2,200	176	2,190	956,000	436
2000	12,400	2,100	169	2,157	941,200	436

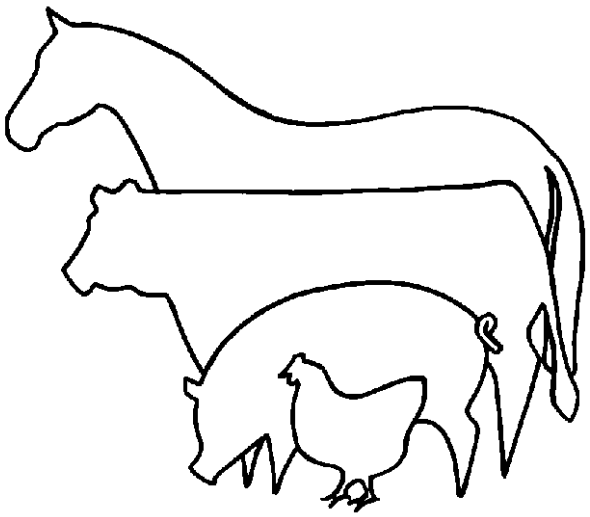
Source: U.S. Census of Agriculture data, except 1997 and 2000, which are USDA's official farm count (which add farms estimated to have been missed by the Census).

and unavoidable, with farm activity eventually falling below a "critical mass" needed to support farm input supply and output marketing sectors, after which essentially all the farmland is converted to nonagricultural uses. At the edges of urban areas this has indeed occurred in Maryland, so that farming is now absent in large parts of our metropolitan counties. But each of these counties has at the same time managed to maintain large areas of farm acreage in regions more distant from the urban fringe. The report forecasts that much of this acreage will continue in agriculture, at least for the next decade.

Stakeholders interviewed for the report, including those on the nonmetropolitan Eastern Shore, saw suburban sprawl as the number 1 or 2 threat to the future of Maryland agriculture. This reflects the fact that only in Talbot and Worcester counties has the rate of decline of land in farms since 1980 been as slow as the 0.5 percent rate of the U.S. as a whole.

Overall Outlook

In view of the success with which Maryland's farmers have dealt with the varied economic conditions that have appeared over the last two decades, and the evidence that producers are already adapting to the changing market and policy-driven demands placed upon them, the report's baseline projection for the next decade is for continued decline in farm land, but only at a relatively slow and manageable rate. The report projects a further loss of about 40,000 acres of farmland by 2010 (2½ percent of current land in farms), but does not expect an economic dislocation that would cause general economic hardship. The report expects the size of dairy operations and some other commercial farm enterprises to increase. On the other hand, the percentage of all farms that have relatively large acreage is expected to decrease. Overall, the number of farms are projected to decline at the same rate as farmland, which would imply a loss of 200 to 400 farms by 2010 to a total of about 12,000. The rates of loss of both farms and farmland are lower than historical rates in the post- World



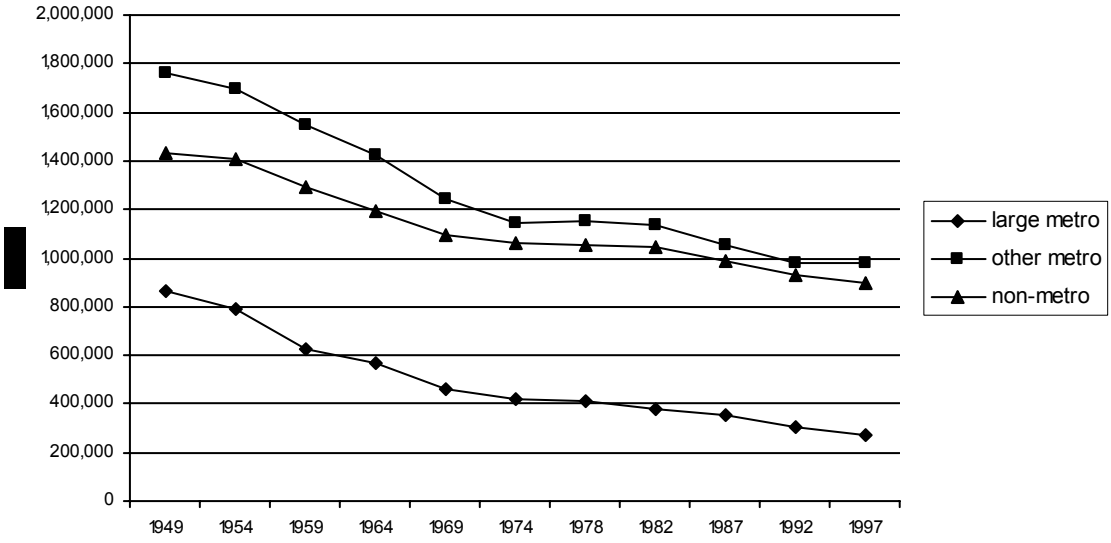
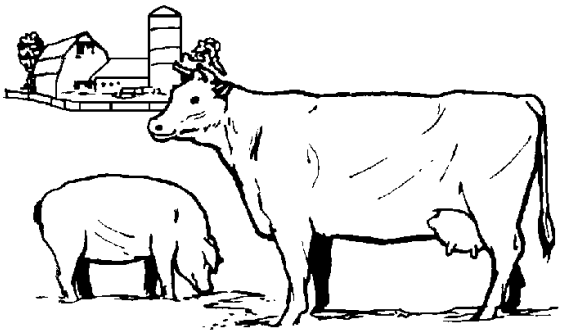


Figure 3. Land in Farms: Three Types of Counties
Source: Census of Agriculture

War II period, but are similar to those of the 1990s.

What about the longer-term outlook? According to Census of Population estimates, Maryland's current (July 2001) population of 5.4 million will grow to 6 million by 2020. The added population, plus a desire for suburban space for more of the existing population, will cause problems, but they appear manageable. The risks are greater and potential problems more intractable if we project these trends further into the future, for example to 2050. The state's population could easily grow by another million by then. Over this longer time span the population will likely gain further in affluence and the average household will likely acquire more space. Suppose an additional million people have an average of two persons per household. To take a likely upper bound, suppose these households each take up one-half an acre of land. The result is needed new residential area occupying 250,000 acres. If half this acreage is converted from farms and half from forest lands (roughly the proportions of the past), the state would still have 1.9 million acres of farmland in 2050 (compared to 2.1 million now).

The preceding projections are a baseline scenario for the future of Maryland agriculture, with commodity market conditions and regulatory policies that essentially continue what is in place as of 2002. The future could easily be substantially worse or better. In part, events will depend upon forces in the natural environment and on the general economy, two things that no one can predict or control. But to a significant degree, what happens will also depend on local, state, and national policies that impact agriculture.



Policy Considerations

A presumption underlying the report is that the disappearance of farms and farmland in Maryland is a problem to which a public policy response is appropriate. It might be argued, however, that such changes are the results of farmers' and others' well-considered decisions in response to market conditions, and the presumption should be a policy of non-interference with market forces. Our reasons for working from the former rather than the latter presumption are: first, that current farming and land-use decisions are not taking place in an unrestrained market situation but are already influenced by governmental interventions such as zoning, public investment in infrastructure, and a variety of regulations and tax policies; and second, that opinions of individuals and groups and other evidence indicate that farming in Maryland generates external benefits and costs beyond those accrued by the actors involved. The first point militates against the presumption that no further policy is the best policy, and the second supports the presumption that the direction of further policy most likely to be beneficial is in the

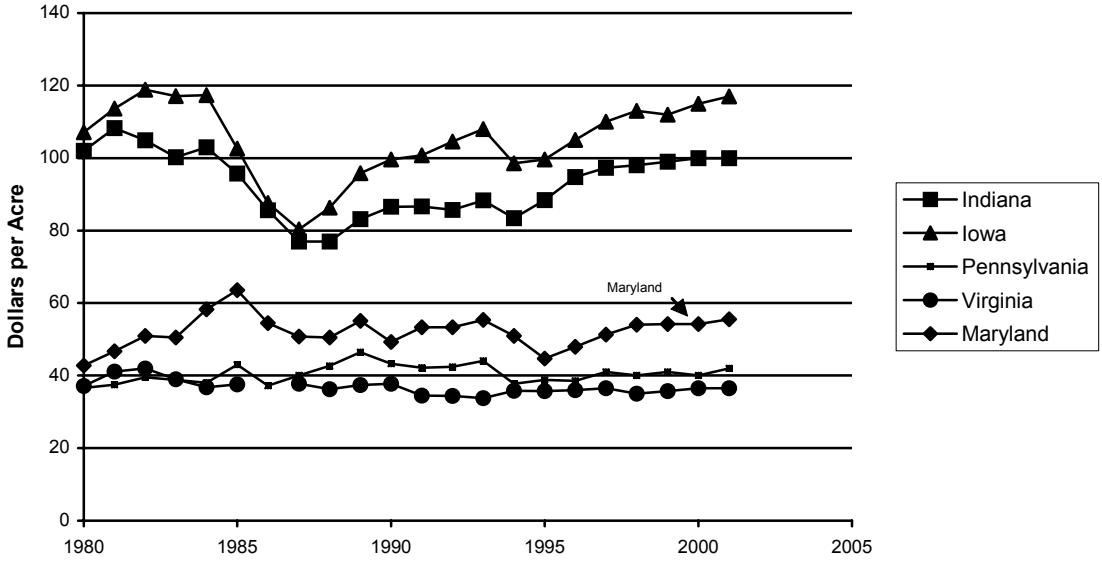


Figure 4. Cash Rental Rates for Cropland
Source: USDA, NASS

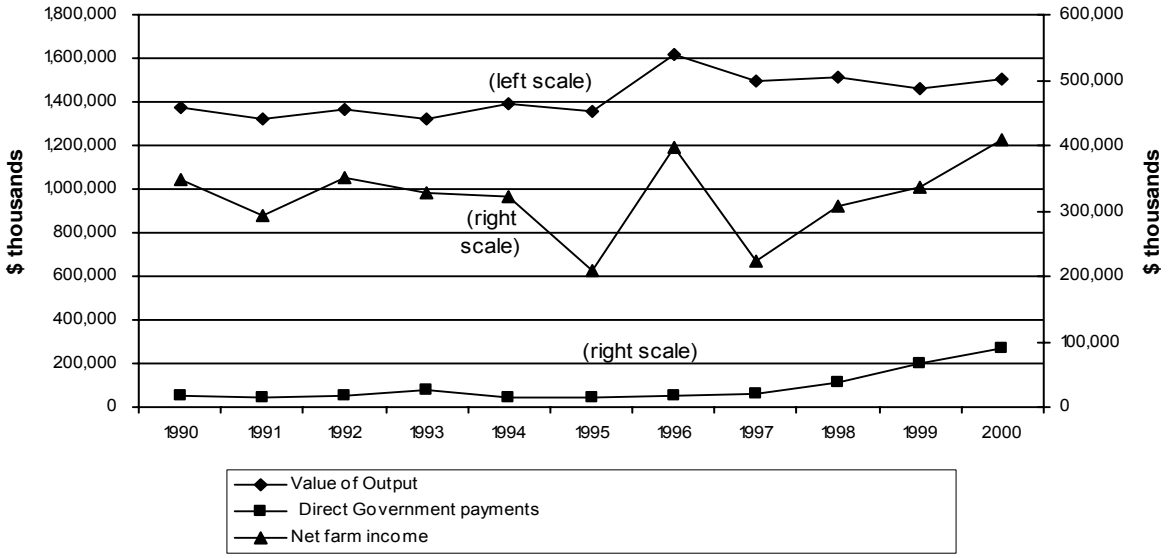


Figure 5. Maryland Agricultural Output, Income, and Government Payments
Source: USDA, ERS

direction of preserving farms and farmland. Nonetheless, any particular policies chosen should pass appropriate benefit-cost tests.

The report discusses a wide range of federal, state, and local policies that affect the economic health of Maryland's farm sector. It highlights a general division of opinion that prevails among those interviewed. One general view is that the best focal point for state-level and perhaps even national policy is a set of land preservation and conservation programs. Policies in these areas offer the most promise for maintaining land in farms while gaining support of the nonfarm population by promoting environmental goals and maintaining the scenic vistas that make rural Maryland attractive. An opposing general view is that preservation and conservation programs will accomplish little or nothing in the way of fostering agriculture as a commercial activity supporting traditional family farms. Adherents of this view argue that in-

Table 4. Maryland's Federal Program Payments, 2000

	Million $	% of U.S. Total
Production Flexibility Contracts	13.8	0.3%
Loan Deficiency Payments	32.3	0.5%
Conservation Reserve Program	5.3	0.3%
Emergency Assistance	34.3	0.4%
Miscellaneous 1/	1.5	0.8%
Marketing Loan Gains	1.2	0.1%
Total	88.5	0.4%

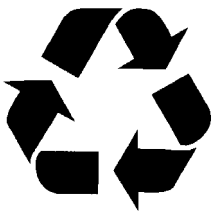
Source: USDA Farm Service Agency

1/ Crop Loss Disaster Assistance, Dairy Market Loss Assistance, Livestock Emergency Assistance, Oilseed Program, Tobacco Loss Assistance, and Wool and Mohair Market Loss Assistance

creased profitability of farming is the only way to attract new entrants to farming, induce new investment, and encourage established farmers not to abandon their existing operations.

The existence of these opposing views reflects the fact that urbanization is a two-edged sword for farmers. On the one hand, urbanization impinges upon farmers, making the farming enterprise more costly and difficult. Development pressures raise the price of land. reducing the economic return to farming and increasing the potential gains by switching land to nonfarm uses. On the other hand, higher land values can provide security for loans or funds for retirement. Residential expansion has also created conflict between farm operations and residential amenities in many communities. At the same time, urbanization provides opportunities for agricultural enterprises to take advantage of nearby urban markets by altering their marketing methods and/or changing product mixes. Prospects for off-farm employment also increase with urbanization.

An important issue in this context is the role of landowners who are not farm operators. Maryland has an estimated 11,200 owners of agricultural land who are not farm operators. More than half of Maryland's farmland is owned by nonfarm operators (57 percent of Maryland's farmland compared to, for example, 45 percent in Virginia, 36 percent in Pennsylvania, and 42 percent for the United States as a whole). The heavy reliance of farm operators on rented land creates management problems and, at times, a divergence of interest between landlord and tenant. Tensions have arisen, for example, when landlords enroll formerly rented cropland in conservation programs, and under the increasingly complicated provisions of farm commodity program regulations that tie benefits to land but make payments primarily to operators. Furthermore, non-operator landlords are more likely to be susceptible to economic pressures to convert farmland to development. Increases in cash rental rates, even while commodity prices are at record lows, make these issues even more sensitive (see Figure 4).



Environmental Regulations

An issue that affects every region of the state is agriculture's effect on the environment, and environmental regulations that may raise costs and reduce the competitiveness of Maryland farms. Local, state, and federal policies have embodied the view that agriculture's large land base and intensive, high-yield crop production, as well as regional concentration of animal production, pose risks of significant negative effects on water and air quality. The nutrient management requirements created by the Maryland Water Quality Improvement Act of 1998 (WQIA) are expected to affect both animal operations and crop growers. However, neither data nor reports of stakeholder groups provides evidence of significant effects that would hasten the decline of Maryland agriculture.

The state regulatory environment – including environmental restrictions, labor management regulations (such as provision of housing and other facilities needed to meet state and federal standards), and permits needed to undertake many improvements such as irrigation or drainage projects – creates a perception that the state is decreasingly friendly to agriculture and farmers. This encourages retirements and other exits from farming, and discourages new entrants. It creates a climate that furthers the current tendency to depreciate the capital stock in agriculture and to avoid new investment. Such investment is essential to make the commodity and market-niche adjustments necessary to stay on the frontier of new production technology and marketing opportunities.

Federal Farm Programs

A policy issue that arises with respect to improving the economic viability of farming is the extent to which profitability can be attained through nationwide commodity programs. Currently, Maryland farmers receive commodity program payments that amount to about 20 percent of net farm income, focused on about half of Maryland's producers (Figure 5 shows the trends of govern-

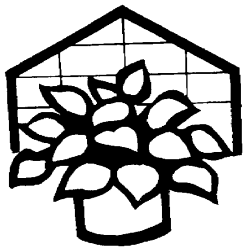
Table 5. Maryland's Leading Commodities by Cash Receipts, 2000

Commodity	Cash receipts ($ millions)	Share of
Broilers	$462.3	31%
Nursery products	$211.5	18%
Dairy products	$181.0	12%
Soybeans	$92.2	7%
Corn for grain	$85.0	6%
Vegetables	$80.5	6%
Cattle and calves	$70.6	5%
Miscellaneous livestock and products	$67.9	5%
Floriculture	$57.8	4%
Eggs	$42.1	3%

Source: Maryland Agricultural Statistics Service, 2001

ment payments compared to net farm income). In order to appreciably improve the economic viability of Maryland producers significantly enough to keep their land in farming, it would take a huge increase over current outlays, and even that would not be enough to make agricultural use of land in the central metro counties competitive with development alternatives. Some in the 2002 farm bill debate argued that a shift of emphasis to spending several billion dollars on conservation/environmental programs would serve Maryland and other Eastern farmers better than current commodity programs. A problem however is that farmers' receipts of such funds would be tied to costly new undertakings by farmers, while current programs pay them for doing just what they are already doing anyway. On the other hand, the nonfarm population sees more of a benefit from the conservation/environment approach and is therefore more likely to support the necessary government spending over the long term.

Nonetheless, it remains the case that the net gain to farmers per dollar spent on farm programs is substantially larger for current commodity programs than would be the case for conservation/environmental programs. Maryland farmers have shared as little in conservation program dollars as in commodity program dollars. In 2000, for example, Maryland accounted for 0.8 percent of the nation's agricultural output but received only 0.3 percent of production flexibility contract and loan deficiency payments, and received only 0.2 percent of Conservation Reserve Program payments (see Table 4). The relatively large role of non-program commodities in Maryland means that our state is relatively disadvantaged in the whole range of federal programs (Table 5 provides a list of Maryland's leading cash commodities).

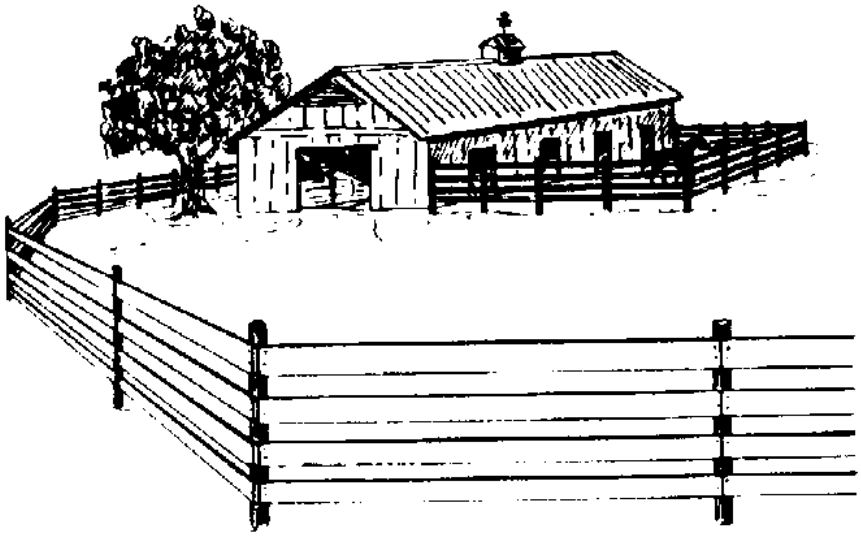


Budget studies as well as recent trends indicate that our most promising future lies with non-program crops, including niche activities that embody substantial services beyond those of just growing the crops. However, it is important to recognize that all specialty crops, vegetables, orchards, and nursery/greenhouse crops together utilize only about 75,000 acres, while grains and soybeans occupy about 1.2 million acres. Thus, no conceivable expansion of the former set of commodities can serve to keep Maryland's current cropland in agriculture. The traditionally grown grain and soybean crops will remain crucial. This basic agriculture, centered on the Eastern Shore, has grown symbiotically with the broiler industry -- each is necessary to the other. Maryland's grain growers are arguably placed in a better long-term economic position by the substantial premiums over Corn Belt grain prices that the demand for chicken feed creates than by any conceivable price support program. So state-level policies that can promote the continued viability of broiler production in Maryland are arguably the most important agricultural policies the state can implement.

State Programs

What else can the state government reasonably do? The general thrust that appears most promising is to undertake public investments and foster private investments that will advance the state's comparative advantages and create new ones. Every state – including Maryland – across the country supports value-added agriculture in some fashion. The programs offered relate to the types of agriculture in each state, with state-grown product promotion and labeling programs being the most popular.

Agricultural marketing assistance could be used to more effectively exploit alternative marketing channels. Export promotion has been utilized by many state agricultural departments, but this approach is relatively dubious for Maryland, apart from broilers, because Maryland is typically a grain importing area. Maryland has been effective in facilitating



the development of farmers' markets. But further issues could be explored specifically related to the barriers of increased participation in direct marketing and value-added agricultural activities. For instance, small-scale farmers and food processors need assistance in complying with the panoply of food safety, labor, and environmental regulations at the federal, state, and local levels.

Farm labor supply needs are persistent to farm employers and complicated by the unpredictable nature of agricultural production. Currently, foreign workers can be employed temporarily in agriculture under the H-2A provisions of the Immigration and Nationality Act. However, there are a number of limiting factors – cumbersome lead time for employers, lack of certified housing, administrative pressures – that could be lessened by increased funding and Federal legislative changes. A state program to assist with development of worker housing may facilitate the use of this program. The state could also provide broader services to farmers by assisting them through the labyrinth of employer requirements and regulations.

Farmland preservation programs

Maryland has been a national leader in enacting farmland preservation programs including conservation easements, purchase of agricultural easement programs, right-to-farm laws, and differential assessments. At the local level, Maryland jurisdictions have enacted programs centered on comprehensive planning, right-to-farm ordinances, and transfer of development rights programs. Given the overarching goal of ensuring the survival of the agricultural economy by preserving productive farmland, specific goals for these programs have included: maximizing the number of preserved acres; preserving productive farms; preserving farms most threatened by development; and preserving large blocks of land. While our research indicates that these programs have had some significant effects, much could still be done to improve participation in state and local agricultural land preservation programs and to provide a more effective use of existing resources available to purchase agricultural land easements.

Another issue in farmland preservation is creating a stronger linkage among the various farmland protection, natural resource, and agricultural economic development programs in areas where farmland is threatened. If a farmer has made a commitment to keep the farm's land in agriculture, it is arguable that the public should provide some assistance in helping to retain a working and profitable farm. Some counties – in particular, those with established offices of agricultural economic development – are well on their way towards fostering such a linkage.

Conclusions

In summary, there are many areas in which state as well as federal policy could assist in promoting a prosperous agriculture that contributes to Maryland's future economic vigor and quality of life. It is noteworthy that the most promising policies are not huge departures from current directions, but rather intensification of what is working and pulling back from what is not. If Maryland's agricultural economy and policies were to continue on their current path, our projections suggest that that the rapid rates of loss of farm and forest resources of past decades will not return over the next ten to twenty years, although some segments of agriculture are at risk. Further losses of farmland will occur, as is inevitable as population grows and affluence, with its attendant demands for more living space for the average household, continues to expand. For the immediate future these losses will continue to be manageable.

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